

-- 38. The system of claim 34, wherein a plurality of substantially transparent sensors forming a sensory array are disposed on a single substrate, to cover a portion of said substrate and wherein each sensor is connected to a sensing device for detecting capacitance changes. --

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-- 39. ~~The system of claim 38, in which said plurality of substantially transparent sensors form a transparent capacitive touch sensing system comprised of:~~

a substantially transparent one-dimensional sensor comprising a plurality of transparent conductive traces in one axis for sensing capacitive coupling between a user's touch and the sensor array along one axis; and

a sensing device for detecting capacitance changes on the transparent sensor trace array. --

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4 -- 40. ~~The system of claim 39, further including a position detector for determining the position of an object on said sensor array. --~~

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cont.
5 -- 41. ~~The system of claim 39, further including a system that recognizes tap gestures. --~~

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6 -- 42. ~~The system of claim 39, in which said sensor array is made on a flexible, transparent substrate. --~~

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7 -- 43. ~~The system of claim 39, in which said sensor array is made on a rigid, transparent substrate. --~~

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8 -- 44. ~~The system of claim 39, in which the bottom of the sensor trace array is electrically shielded using a substantially transparent ground plane. --~~

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9 -- 45. ~~The system of claim 39, in which said sensor trace array is mounted atop a display device. --~~

10 -- 46. ~~A transparent capacitive touch sensing system comprised of:~~

a substantially transparent two-dimensional sensor trace array consisting of a plurality of substantially transparent conductive traces in the X axis and a plurality of substantially transparent conductive traces in the Y axis for sensing capacitive coupling between a user's touch and the sensor array along two axes;

~~a substantially transparent electrically insulating material separating~~
the plurality of X traces from the plurality of Y traces; and

a sensing device for detecting capacitance changes on the two dimensional transparent sensor trace array. --

11 -- ~~47~~¹⁰. The system of claim ~~46~~¹⁰, wherein each trace of said sensor array is patterned as a series of connected diamonds. --

12 -- ~~48~~¹¹. The system of claim ~~47~~¹¹, in which said diamond pattern for the sensor traces in each axis is designed so that the diamonds that form each sensor trace in one axis minimally overlap the diamonds that form each sensor trace in the other axis. --

13 -- ~~49~~¹⁰. The system of claim ~~48~~¹⁰, further including a position detector for determining the position of an object on said sensor array. --

14 -- ~~50~~¹⁰. The system of claim ~~49~~¹⁰, further including a system for recognizing tap gestures. --

15 -- ~~51~~¹¹. The system of claim ~~50~~¹¹, in which the diamond of each trace in said sensor array is sized so that a diamond from a neighboring trace nearly touches it at its widest, resulting in said sensor array having nearly uniform transparency. --

16 -- ~~52~~¹⁰. The system of claim ~~51~~¹⁰, in which the said sensor array is made on a flexible, transparent substrate. --

17 -- ~~53~~¹⁰. The system of claim ~~52~~¹⁰, in which at least one layer of said sensor array is made on a flat, rigid, transparent substrate. --

18 -- ~~54~~¹⁰. The system of claim ~~53~~¹⁰, in which said transparent sensor array is composed of a plurality of layers including substrate layers, anti-reflective coating layers, refractive index matching layers, and adhesive layers, all of said layers having approximately the same index of refraction. --

19 -- ~~55~~¹⁰. The system of claim ~~54~~¹⁰, in which the bottom of said sensory array is electrically shielded using a substantially transparent ground plane. --

20 -- ~~56~~¹⁰. The system of claim ~~55~~¹⁰, in which the transparent sensor array is mounted atop of a system to read fingerprints. --

21 -- ~~57~~¹⁰. The system of claim ~~46~~¹⁰, in which said sensory array is mounted atop a display device. --

22 -- ~~58~~¹⁰. The system of claim ~~46~~¹⁰, in which said sensor array is mounted beneath a clear protective covering for a display device. --

23 -- ~~59~~¹⁰. The system of claim ~~46~~¹⁰, in which said two-dimensional trace array mounted atop a display device comprises an object positioning system in which the display device provides additional user interface information. --

24 -- ~~60~~¹⁰. The system of claim ~~46~~¹⁰, in which said sensor traces form a substantially space-filling pattern. --

25 -- ~~61~~²³. The system of claim ~~60~~²³, in which said transparent sensor array is composed of a plurality of layers including substrate layers, anti-reflective coating layers, refractive index matching layers, and adhesive layers, all of said layers having approximately the same index of refraction. --

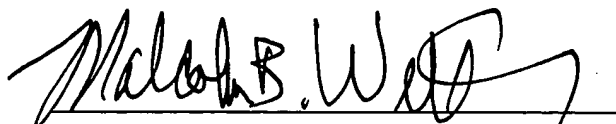
26 -- ~~62~~²³. The system of claim ~~60~~²³, in which said sensor is mounted atop a display device. --

27 -- ~~63~~²³. The system of claim ~~60~~²³, in which said sensor array is mounted beneath a clear protective covering for a display device. --

The above-referenced amendment to the claims has been made prior to the receipt of an Official Action in order to more clearly define that which applicant regards as the present invention.

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Respectfully submitted,


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